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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/840,084	04/24/2001	Kyu-Hwang Chung	P56366	2169
7590	12/01/2004		EXAMINER	
Robert E. Bushnell Suite 300 1522 K Street, N.W. Washington, DC 20005			DUONG, THOI V	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/840,084	CHUNG, KYU-HWANG	
	Examiner	Art Unit	
	Thoi V Duong	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 15 September 2004.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-23 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 3,11 and 17-20 is/are allowed.
- 6) Claim(s) 1,4,9 and 12 is/are rejected.
- 7) Claim(s) 2,5-8,10,13-16 and 21-23 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____

DETAILED ACTION

1. This office action is in response to the Amendment filed September 15, 2004.

Accordingly, claims 2, 5-8, 10, 13-16 were amended and new claims 21-23 were added. Currently, claims 1-23 are pending in this application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 4, 9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Prior Art (Fig. 1) in view of Hansell, III et al. (USPN 5,176,538).

Re claims 1 and 9, as shown in Fig. 1, Applicant's Prior Art discloses a flat panel displaying apparatus, comprising (see Specification, pages 6 and 7, paragraphs 23-27):

a liquid crystal display module 117 displaying a picture;

a chassis 119 surrounding edges of said liquid crystal display module, defining an external appearance of said flat panel displaying apparatus;

a printed circuit board 125 provided with a connector 127 connected to an external system by a connection cable 151, said printed circuit board being grounded to said chassis by screws 137;

a liquid crystal display controller 129 provided in said printed circuit board, said liquid crystal display controller activating said liquid crystal display module; and

a ground portion 135 formed around said liquid crystal display controller.

Re claims 4 and 12, although it has not been shown in Fig. 1, some of the ground portions 135 formed adjacent to signal lines 133 on the respective substrates are interconnected through holes and connected to the chassis by screws 137.

Applicant's Prior Art discloses a flat panel displaying apparatus that is basically the same as that recited in claims 1 and 9 except for a reinforcement connector connected to the ground portion and supporting the ground of said printed circuit board.

As shown in Figs. 1-3, Hansell discloses a reinforcement connector 8 (ground spring finger) connected to and formed with a ground portion 6 and supporting the ground of a printed circuit board (PCB) 21 via a ground pin 17 formed in a header 20 of the PCB 21, wherein this reinforcement connector 8 is provided on the header 20 of the PCB 21.

Hansell teaches that the spring ground finger is mechanically stressed prior to ground pin insertion thus enabling it to achieve a high normal force and ensuring reliability and environmental stability when engaged (col. 3, lines 40-45).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the flat panel display apparatus of Applicant's Prior Art of with the teaching of Hansell by employing a reinforcement connector connected to the ground portion and supporting the ground of the printed circuit board for enabling to achieve a high normal force and ensuring reliability and environmental stability when engaged (col. 3, lines 40-45).

Allowable Subject Matter

4. Claims 3, 11 and 17-20 are allowed.

The following is an examiner's statement of reasons for allowance: none of the prior art of record fairly suggests or shows all of the limitations as claimed. Specifically,

Re claims 3 and 11, none of the prior art of record discloses, in combination with other limitations as claimed, a reinforcement connector comprising:

a connector body formed with a housing portion receiving said connection cable;
a cover provided in said connector body, opening and closing said housing portion, to fasten said connection cable in said housing portion; and
a ground contact provided in said housing portion of said connector body, said ground contact connected to said connection cable and said pound portion of said printed circuit board.

The most relevant reference, USPN 6,305,971 of Yu-Feng, fails to discloses a ground contact connected to a connection cable and a ground portion of a printed circuit board. As shown in Fig. 4, the Yu-Feng's reference only discloses a connector (flat cable insertion socket) comprising a pivotally connected cover 30 opening and closing a housing portion 20 to facilitate easy insertion of a flat cable 10 and to fasten the cable in the housing portion to avoid poor electrical connection (col. 3, lines 3-7 and 49-62).

Re claim 17, none of the prior art of record discloses, in combination with other limitations as claimed, a method comprising:

lifting a cover of a reinforcement connector disposed adjacent to a connector of a liquid crystal display, said reinforcement connector being connected to a ground portion;

inserting a connection cable having a ground pin into an inside portion of said reinforcement connector below said cover;

moving said cover downward to close a housing portion of said reinforcement connector; and

engaging a ground contact of said reinforcement connector with said ground pin of said connection cable.

The most relevant references, USPN 5,176,538 of Hansell III et al. and USPN 6,305,971 of Yu-Feng, fail to disclose or suggest that method. The Hansell's reference discloses a reinforcement connector comprising a cover and a ground spring finger connected to a connection cable and engaging with a ground pin of the PCB; however, the cover of Hansell does not have a function for lifting and moving downward and the connection cable of Hansell does not have a ground pin. Meanwhile, as shown in Fig. 4, the Yu-Feng's reference only discloses a connector (flat cable insertion socket) comprising a pivotally connected cover 30 opening and closing a housing portion 20 to facilitate easy insertion of a flat cable 10 and to secure the cable in place to avoid poor electrical connection (col. 3, lines 3-7 and 49-62).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. Claims 2, 5-8, 10, 13-16 and 21-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: none of the prior art of record fairly suggests or shows all of the limitations as claimed. Specifically,

Re claims 2, 5, 10 and 13, none of the prior art of record discloses, in combination with other limitations as claimed, a reinforcement connector formed with a ground portion and detachably connected to the connection cable.

The most relevant references, USPN 5,176,538 of Hansell and USPN6,305,971 B1 of Yu-Feng, fail to disclose or suggest such reinforcement connector. The Hansell's reference only discloses a reinforcement connector as a spring finger protruding inwardly to provide ground contact. Meanwhile, as shown in Fig. 4, the Yu-Feng's reference only discloses a reinforcement connector as a flat cable insertion socket comprising a main body 20 and a cover 30 formed on a printed circuit board 13 to accommodate the insertion of a flat connection cable 10.

Re claims 8 and 16, none of the prior art of record discloses, in combination with other limitations as claimed, the reinforcement connector having a ground pin connected and formed with a ground contact.

The most relevant reference, USPN 5,176,538 of Hansell, fails to disclose or suggest the reinforcement connector having a ground pin connected and formed with a ground contact. The Hansell's reference only discloses a reinforcement connector having a ground finger formed with a ground contact.

Re claims 21-23, none of the prior art of record discloses, in combination with other limitations as claimed, the reinforcement connector integrally formed with a ground portion and a printed circuit board and being accommodating a detachable connection with a connection cable to an external system.

The most relevant reference, USPN 5,176,538 of Hansell, fails to disclose or suggest the reinforcement connector integrally formed with a printed circuit board and accommodated a detachable connection with a connection cable. The Hansell's reference only discloses a reinforcement connector integrally formed with a ground portion on a header of a printed circuit board.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

6. Applicant's arguments filed September 15, 2004 have been fully considered but they are not persuasive.

Re claims 1 and 9, Applicant argued that there is no suggestion to combine the references since the reinforcement connector of Hansell is on the cable connection and not on the PCB of the LCD and Hansell does not teach the ground portion being formed around the LCD controller.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by

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combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Fig. 1 of Hansell shows the reinforcement connector 8 formed as an intergral part of the ground portion 6 and Fig. 3 of Hansell shows the reinforcement connector 8 being on the header 20 of the PCB 21. Clearly, the reference of Hansell is employed for teaching a reinforcement connector formed with the ground portion for supporting the ground of the PCB and ensuring reliability when engaged. Thus, it is obvious that the teaching of Hansell is applicable to the ground portion being formed around the LCD controller of Applicant's Prior Art (Fig. 1) for supporting the ground of the PCB.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (571) 272-2292. The examiner can normally be reached on Monday-Friday from 8:30 am to 4:30 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached at (571) 272-2293.

Thoi Duong

11/24/2004

TD
NOV 24 2004
SUSAN M. KIM, EXAMINER
TECH. 2870
R. KIM, SUPERVISOR